

## PARAPSYCHOLOGY IN JAPAN

### Introduction

In 1992, the Japanese Society for Parapsychology celebrated its 25th anniversary with a three-day conference in Tokyo. This society was founded by Professor Soji Otani, an academic psychologist at the Japanese Defense Academy. It has been the mainstay of responsible parapsychology in Japan, and has its intellectual roots both in traditional Japanese approaches and in the American experimental approach of J.B Rhine. The latter influence is largely due to the time spent by Otani in Rhine's lab in the mid 1960's, and more recently by Dr Shigeki Hagio, an academic psychologist from Kagoshima Keizai University, in the southern part of Japan. The Society has a small membership, with relatively few empirical contributions, averaging about seven research-related reports each year. Separate sections below will cover this year's JSP convention, as well as research recently initiated at Sony.

Before considering recent research and researchers, some general comments on the social context of parapsychology in Japan may be helpful. All are a mix of subjective impressions from the author's visit. Japan is a very polite, socially structured society. Criticism is indirect, inferred and often rather gradual. Confrontation or debate at conferences or in the media has been quite rare although that is changing. Researchers acknowledge that they obtain more direct and detailed criticism when they present their work internationally. This is unfortunate for parapsychology, where critical feedback is necessary to avoid the many pitfalls of design, methodology, analysis and interpretation that can so easily arise, especially with novice researchers. Some Japanese research projects appear to suffer from lack of critical feedback. It has often been said that when people do not like an idea they will ignore it rather than confront it. There has been very little public criticism of parapsychology by skeptical groups or academics, therefore, which probably is not a good thing. It means that the topic has been and can be safely ignored by the academic/intellectual community. This is reflected in the dearth of bona fide academicians currently involved and in the relative lack of student involvement. It is difficult if not impossible to interest university senior staff and administrators. There is insufficient precedent and universities are very conservative, and reluctant to take on new ideas. "The nail that stands out gets hammered down" is a well-known proverb, frequently cited in conversation. The lack of academic involvement and other public discussion means that serious public assessment of the strengths and weaknesses of parapsychological research is greatly reduced. This in turn further marginalises the subject for potential serious researchers.

An additional consequence is that the media themselves have no real guidelines for distinguishing between competent and sloppy research, in their own country and elsewhere. Many programs are made which describe research activities in China, Russia, North America and Europe, which are very popular but have little quality control. Japanese psychics are presented primarily through televised demonstrations which are often poorly controlled. This situation is amenable to some change, however, as Japanese media are eager to avoid mistakes or being regarded after the fact as foolish. But when they seek advice, they have little idea

themselves of the degree of expertise of those they consult. This is not unique to Japanese media, of course. A recent example of media conflict over psychic claims is mentioned in the attached article by James McClenon.

Japanese society as a whole is very open to parapsychology and to intelligent research in such areas. Survey figures show that only 10% of Japanese claim religious belief, yet 80% claim to practice Buddhism and 80% claim to practice Shinto. Most Japanese actively practice both, and frequently engage in rituals of various sorts which imply direct interaction between their own mental activities and the surrounding environment, including interaction with spirits. Supplicatory prayer is common, even by those who would claim that it's only a placebo, or that they are engaging in a social act to show their peers how dedicated they are towards various goals. The idea of using modern tools to explore ancient claims is acceptable to most, because Japanese society emphasises the integration of the old with the new in so many ways. Current interest in exploring psychic powers seems currently to focus on China and Russia/Siberia, generally held by academics to be the two main ancient sources of Japanese spiritual tradition. Siberia is less frequently acknowledged by the public as a whole, but evidence of Siberian shamanism as well as Indochinese shamanism (via Okinawa) can be seen in the forms of Shinto practices in less developed regions (occasionally referred to as Mountain Shinto or "mountain religion". Included are various mediumistic and healing practices, as well as ideas of the concentration of mental energy later incorporated in the mountain-based Ninja training centres and in the Chinese tradition of Qi.

As a result of various factors including the above, serious psychical research in Japan tends to be practised by a handful of academics, by a few members of the medical community, and by individuals or small groups within industry. The most impressive example of the latter are the research facilities at the Sony Research Center in Yokohama.

#### **Parapsychology Research at Sony**

Professor Soji Otani and the author visited the Sony Research Center in August, 1992, where there are two laboratories involved in parapsychological research. Our hosts were three electrical engineers; Dr Toshiro Terauchi, Senior Manager of the ESPER Laboratory; Dr Yoichiro Sako, Representative of the ESPER Laboratory; and Dr Mitsuru Takashima, Assistant Manager of the Pulsegraph Laboratory. Although all three spoke English, Dr Terauchi served as our primary translator. We were given a brief history and introduction to the research of the two labs.

Seven years earlier, Mr Ibuka, Honorary Chairman of Sony Corporation, established a lab with Dr Takashima, to explore the mind-body aspects of oriental medicine. After three years the Pulsegraph Lab was formed, to examine Eastern approaches through the tools of Western medicine. This has involved working with Chinese Qigong practitioners, primarily Mr Nagoya who has joined them. They study interactions between healers and non-clinical volunteers, focussing on the physiology of both healer and client. Measures are taken while the healer becomes relaxed and while the healer gives and receives energy. These measures so far have been taken on people in the same room; no remote influence studies as yet. They intend

to look at differences in healers, both Japanese and Chinese, as well as differences in healing environments. Although they employ a variety of measures including EEG, body temperature and standard plethysmography, their main innovation so far is the development of the pulsegraph, an instrument for measuring pressure in the arteries at three adjacent locations, primarily in the left and right wrists. The device places pressure on the artery at three adjacent sites, varying the amount of pressure from hard to merely "floating". This gives a total of 12 readouts, six from each hand, and enables assessment of vasomotor activity, heart rate, heart beat amplitude, blood flow, viscosity, vessel elasticity and heart valve movement. Professor Otani and I both went through this procedure and our polygraph records were examined afterwards by Mr Nagoya. He examined the raw wave forms themselves as well as the various digitised readings provided, focussing on various patterns. He then gave a description both of the cardiovascular health of the individual, plus a character reading based on an assessment of what the body-mind interaction was likely to be, e.g. I'm a nice person because my body isn't giving my viscera a hard time. This procedure seemed to represent their main accomplishment so far, and they felt that they had devised a scientifically solid procedure for measuring processes suggested by Eastern technique. The author has since learned that Chinese practitioners routinely put three fingers on each pulse for several minutes, first one then the other, and that this constitutes a major medical observation for them. The Pulsegraph Lab, then, had been primarily a lab for development of psychophysiological measurements so far, and their research was only gradually turning toward procedures that would enable measurement of remote influence within a medical context.

On the other hand, the ESPER Lab, less than a year old at the time, was to be dedicated to more directly parapsychological procedures. Its origins had apparently come from a major reassessment of Sony priorities for the 21st century by the R and D Corporate Planning Group. In debating between "outer space" and "inner space" they had selected inner space as less expensive and as less likely to be done better in Western society. A Human Science Working Group had identified four areas of interest: brain sciences, social science, highly creative individuals (artists and producers of impressive works), and special mental abilities, including psi and Qigong practice. They had decided to emphasise China, as country of origin, and through Mr Ibuka and the Chinese government, Sony representatives were allowed to meet Qigong practitioners. They were impressed and reported to the Chairman of Sony, Mr Morita, who set up the ESPER lab in response. One of the first projects was to follow up on some demonstrations filmed in China by TVS of children who can apparently read hidden characters. A joint project was being designed with media people such that part of the incentive for participants would be to appear on TV. Their tests were not well described, and sounded somewhat informal, so we could not assess how likely the results are to be due to some sort of trickery by the children. Characters from books as well as those written on paper were used. They estimate that at present they had worked with over 100 children, with one in ten doing well, and some showing stable abilities. In conversation, they seemed reluctant to consider the possibility that some or all of their successful participants might just be skilled tricksters, but seemed open to the idea of safeguarding against external criticism. Given the general attitudes toward actual public criticism, it is hard to say how seriously they took this possibility. In general, they seemed more interested in presenting their work rather than discussing it. Their stated general goals for the ESPER Laboratory are to conduct research with children and adults,

to verify the existence of such special skills, developing theory, systems and applications. In general the Pulsegraph Lab research seems more advanced and on a solid basis: the ESPER research seems in its early stages and we could not get a good feel for how well it was currently being conducted. All three researchers seemed intelligent and interested in doing good science. We only saw the Pulsegraph Lab, and its facilities seemed quite adequate for the job. We were told that in all there were ten individuals employed in the two labs combined. Sony does seem to have a commitment to research in this area with support at the highest administrative levels.

### **THE JAPANESE SOCIETY FOR PARAPSYCHOLOGY ANNUAL CONFERENCE**

The annual meeting of the JPS normally lasts for two days but was extended for a third day so that its one-day summer tutorial session could be combined. Attendance was approximately 25 people, all male save for a student, a spouse and one of the demonstrators. Some attendees were researchers in corporations such as NEC, Fujitsu, Hitachi and IBM, who were able to do some small amount of research but only in their spare time, generally something involving RNG's and computers. Attached are cards from some of the attendees, plus the three Sony researchers who did not attend. A few of the presenters seem well worth further interaction, and condensed versions of their papers are enclosed.

Professor Soji Orani (address in PA Directory) is the leading figure in the Society. Now retired from the Defense Academy, he no longer conducts research but remains active in writing, editing and administration. He has many contacts with academia, industry (including Sony) and the major media, especially television. Attached is a paper by him summarising the Society's research activities over the years.

Dr Masayuki Hirafuji is a young cognitive psychologist with the National Agriculture Research Center, in the Ministry of Agriculture, Forestry and Fisheries. He presented two papers, one a connectionist model of ESP, the other an attempted derivation of a precognition model. His current job restricts him to model construction with no empirical testing, although he would in principle be quite happy to do both. He seems very articulate and has some working knowledge of parapsychology.

Mr Hideyuki Kokubo is a young computer specialist with Sanseido, a publishing company. He gave a paper using signal detection theory in a novel application, but also finds that he is constrained to model construction rather than empirical testing.

Professor Shigeaki Hagio, a psychologist at Kagoshima-Keizai University, is now the most active experimentalist and follows the classical Rhinean strategies of psi testing. Enclosed are brief descriptions of several recent studies, involving the local student populations. He has spent time in the States as well as in Britain, occasionally attends PA conferences and is a PA associate member. He is fairly knowledgeable about modern parapsychological methods. His university is in the southern part of Japan.

**Drs Toshiaki Imaizumi and Osamu Imada** are young psychiatrists in Kachi Hospital, whose paper on beliefs about the nature of spontaneous cases is enclosed. They seemed intelligent and with knowledge of research design and parapsychology.

**Dr Akiro Ouda** is a retired specialist in Buddhist philosophy, who is a PA member and has been active in the Society from the beginning.

Others presented on the programme as well, but were less involved in research-related topics.

### SUMMARY

The researchers named above seem responsible and good starting places for exploring serious Japanese parapsychology. There is much popular interest in Japan and many groups who blend claims of special mental power and spiritual practice. Some of these have dubious reputations, within the parapsychological community as well as the public. Most younger Japanese can use English adequately. Older Japanese can read it but often have trouble with spoken English. Japan is a country with considerable potential for parapsychology, but they need more information about Western techniques for assessment. In turn their culture has many practices which should be explored more systematically and may contribute substantially to our understanding.

SG11

  
1 June 1993

## General Review of Research in JSPP

Soji Ohtani

Academic research in parapsychology in Japan started after World War II, beginning with the introduction of the works of Parapsychology Laboratory, Duke University directed by Dr. J.B. Rhine.

A thesis written by Ohtani was published in the Journal of Parapsychology in 1955. Research in Japan has been strongly influenced by the Laboratory since then. In 1963, "Parapsychology Studying Group" was established, and they presented their research in the Japanese Society for Psychology and the Japanese Society for Applied Psychology. In 1967, the first convention of the Group was held, followed by the establishment of "the Japanese Society for Parapsychology". This offered researchers the opportunities to exchange information and to present their sophisticated research annually.

More than 180 researches have been presented at the Annual Convention. As for those on ESP, we have the one on the relationship with some psychological tests(Ohtani, Nomura, Takeshima), the ones on the relationship with physiological variables(Ohtani, Osuka, Matsumae, Nagashima, Sugishita, Kusunoki, Saito, Fukuda), the ones on the relationship with environmental condition(Ohtani, Matsuda, Kurihara, Yamaguchi, Ito), the ones on the relationship with imagery(Hayase).

As for those on PK, we have the ones using new materials(Takahashi), the ones on effects to living organisms(Ohtani, Haruki), the ones on metal bending with gifted subjects(Ohtani, Kasahara, Koori, Ro).

We have an international research on remote viewing(Ohtani, Minakami, Dean). Also, we have many researches on spontaneous cases(Ohtani, Kurihara, Watanabe, Koori, Hagio, Wada).

As for theoretical research, we have the one on precognition concerned with the time issue(Kanazawa). Some of us have tried to establish models on the process of ESP(Kokubo, Hirafuji, Sakurai).

Besides, we have the one on the relationship between the structure of call and the scores(Knide), the ones on the credibility of ESP targets(Kuroda, Hagio), the one with

some manipulation of ESP targets(Illgio), the ones on the analysis of the data(Maruyama).

At the same time we have some researches related to the concerning fields: the surveys on NDE(Becker), the one on the relationship between creativity and ESP(Onda), the one on Kirlian photographs(Fujita).

We have two long-lasting researches: the one is about the theory on precognition (Kanazawa), and the other is about psi occurring around older mental patients(Nagashima).

We have received no direct and decisive criticism. I think it necessary for us to publish our researches in many ways and, exposed to constructive criticism, improve them.

SG1B



## Connectionist Model of ESP

Masayuki Hirafuji

### 1 the Amount of Information Transmitted with ESP

In an ESP experiment using targets whose hit rate is  $1/2$ , the amount of information transmitted in a trial is shown in the formula in the next page.

At least  $1/IESP$  times of trials are needed to get 1 bit of information (shown in Fig.1).

This means we can get a significant result with a large number of trials even if the hit rate is close to the chance level. The amount of information transmitted in a trial in a trial is quite small, as seen from the fact that most ESP experiments with significant results have a large number of trials. That is, the capacity of ESP is quite small.

Based on the idea that this is because signals of ESP occur at a level weaker than noises, I establish my model of ESP.

### 2 ESP and the Process of Cognition

As seen in the Law of Waver, normal senses, such as sight, auditory sense, sense of touch, produce relatively simple responses against stimuli. On the other hand, ESP produces rather complexed responses which seem deeply related to the subjects' process of cognition, as seen in sheep-and-goat and prize effect. If ESP is closely related to the process, we need a model including it to understand ESP.

I combined the model of cognition and a model in which information is extracted from weak ESP signal below the noise level, and established an ESP model (shown in Fig.2).

### 3 Neural Network

Neural network is a model which consists of combined models of nerve cells whose functions are simplified.

Because of the differences among the simplification or the combination, several kinds of neural networks have been proposed. The most basic functions related to cognition, such as recognition, memory, association, learning, can be expressed with combination of the network.

Judging from the fact that BP model resembles the actual brain function so much, the model in which information is coded or decoded by combining neural networks can be



applied to brains if the transmission with signals weaker than noise is possible.

#### 4 ESP Signal Detective Theory

We have no idea which organ senses ESP signal as we don't know what carries ESP signals. But they must be transmitted into neural impulses, if we put it that we have a certain organ which senses them. I presume that ESP signal is micro electrical charge in neural impulses.

Can human beings transmit concepts with electromagnetic waves, as presumed that ESP is a kind of electromagnetic wave and nerve cells are antennas?

It is true that there are some parts in our brains and cells which are electrically charged, and these parts certainly radiate electromagnetic waves. It doesn't matter that the amount of the radiated energy is small. The point is that the waves have complicated phase differences. Because the phases change timewise and spacewise in a complicated manner, they dismiss each other so that we can't detect them. Therefore, a simple biological model can't stand.

In the connectionist model of ESP, I regard the each electrically-charged part as the source and the receiver of electromagnetic waves. That is, each part has its own frequency and phase simultaneously. This resembles a huge number of transmission machines functioning without confusion, but in the model the transmitted information is always homogeneous and can be controlled intentionally.

Theoretically, it is possible to transmit information even in a poor system, only if the information is coded in a proper way which fits the feature of the system. Thus, ESP can transmit information, even if the signal is quite weak, once we have proper coding method. The process is expressed by the Formula (1) to (6).

#### 5 Coding in Neural Network

When an agent have a target in his mind, the concerned neuron is activated. By association, other neurons concerned with what is related to the target are activated consequently. Thus the brain establishes the pattern to send the information. This process biases the information timewise and spacewise.

The percipient follow the same process to the opposed direction. The more decoding he does in his neural networks, the less noise and more accurate information he can get.

This process is actually much more complexed, as it is practiced in the unconscious level, but I would like to focus on ESP signal which is weaker than noise, by simplifying the process(Fig.9 and 10).

#### 6 Result of Simulation

I practiced an experiment using a computer, with ESP cards as targets. The hit rate shown in Fig.12 indicates that ESP is competent enough to transmit information and that the association memory has an effect to reduce noises. This leads to a hypothesis that even weak ESP signals can transmit information, as an actual brain has an immense number of neurons and a huge amount of association memory is involved in the process.

#### 7 Psi-Missing and Sheep-and-Goat Effect

When coded information has closely related association memory, the memory becomes a large noise, thus causing inevitable psi-missing(shown in Fig.12). When the association memory is the denial of ESP, psi-missing occurs even if the ESP signal is received.

This is sheep-and-goat effect.

#### 8 Displacement Effect

When the change of the amount of the stored memory is smaller than that of the stored noise, displacement effect is likely to occur(Look at Fig.6).

#### 9 Intensity Probability Theory of Psi

According to the model established by Mr. Kokubo, the intensity probability of psi is certain figure, 0.01, regardless of the hit rate itself. I would like to prove this by using the connectionist model. I have got the Formula (11), which is just equal to the Formula (7), the formula of Mr. Kokubo's model(Look at Formula (7) to (11)).

#### Possibility of Precognition as a Quantum Effect

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#### Abstract

Connectionist models for ESP was proposed by Hirafuji (1988,1990) to account for stochastic nature of ESP, sheep-goat effects and psi-missing without displacement effects. As for displacement effects and precognition, communication channels across time are indispensable. Energy states of neural networks in the connectionist models have many local minimums of specific energy, where some of the local minimum points correspond to memories or states of consciousness. If difference of the specific energy between the local minimum points is very small, time indeterminacy when a state corresponding to a target is recognized becomes large. Based on this quantum effect, a precognition model is proposed.

## ABSTRACT ( corrected )

## Psychological study on acceptance of spontaneous case of precognition

Toshiaki Inatomi, M.D., Omasu Inada, M.D. ( Department of psychiatry, Kashi Hospital )

The authors investigated acceptable type and frequency of spontaneous precognitive cases. Female college students ( N = 192, aged 18 - 21 yr. ) evaluate 30 fictitious stories of spontaneous precognition, which consist of 10 types of common episode X 3 grade of frequency, i.e. once, twice or several times / several years. Interpretation of story was classified into 4 categories ( Fiction, psychotic symptom, accidental coincidence and true PSI ). On each story, subject asked to estimate each interpretation by giving degree of probability ( ranged 0-100%, by 5% step ) under the condition that the sum of 4 score should be 100%. In available 198 subjects, mean value of 129 estimated scores of probability ( 10 type X 3 frequency X 4 interpretation ) were showed in table 1.

Among 4 interpretations, alternative hypothesis of true PSI ( 37%, mean value of 38 cell ) was accidental coincidence ( 35% ). Estimated probability of fiction ( 19% ) and psychosis ( 9% ) were relatively low. As frequency of episode increased, probability of fiction and psychosis increased, while that of accidental coincidence decreased. Probability of true PSI remarkably stepped up in F and J, down in C and D, as the frequency augmented. Type C episode, appearance of lifelong parting mother near by death bed in her son's dream, is widespread and impressive episode, so it marked highest probability of true PSI. Type G episode, avoidance of lethal accident due to sudden illness, is almost similar to type C episode in popularity and novelty. It didn't show high scores of true PSI against the author's expectation.

TABLE 1 : Mean value of estimated scores of probability

episode	Frequency 1 1 / several yr.				Frequency 2 2 / several yr.				Frequency 3 3- / several yr.				I FICTION			II PSYCHOSIS			III ACCIDENT			IV PSI		
	Interpretation				Interpretation				Interpretation				frequency			frequency			frequency			frequency		
	F	P	A	V	F	P	A	V	F	P	A	V	1	2	3	1	2	3	1	2	3	1	2	3
A	18	16	38	37	25	14	31	30	30	15	21	34	18	25	30	10	14	15	35	31	21	37	30	34
B	13	7	17	43	18	10	29	42	21	12	24	44	13	18	21	7	10	11	37	28	24	43	43	44
C	8	5	19	68	11	6	20	63	19	9	14	58	8	11	16	5	6	9	19	20	14	68	63	58
D	11	5	47	37	17	9	41	33	27	14	27	32	11	17	27	5	9	14	47	41	37	37	33	32
E	7	4	66	23	11	4	62	23	24	8	45	42	7	11	24	4	4	6	66	62	45	23	23	25
F	18	8	44	30	23	8	37	37	24	11	27	38	18	23	34	8	8	11	44	37	27	30	32	38
G	12	5	42	41	17	7	34	42	24	9	23	44	12	17	24	5	7	9	42	34	23	41	42	44
H	23	11	34	32	27	15	29	29	32	18	19	31	23	27	32	11	15	18	34	29	19	32	29	31
I	10	6	40	44	18	9	33	40	27	12	24	37	10	18	27	6	9	12	40	33	24	44	40	37
J	10	5	38	27	14	7	44	23	18	10	36	38	10	14	19	5	7	10	38	44	36	27	33	35

Thirty fictitious stories of spontaneous precognition, which consist of 10 types of episode ( A-J ) X 3 grade of frequency ( 1-3 ), were estimated by 192 female college students. Each cell indicated mean value of probability scores ( % ) for 4 interpretation in the left half of columns. The same data set rearranged for 3 grade of frequency in the right half of columns.

life', the top figure, were 24 cases. 23.3 %, followed by 21 cases, 20.4 %, of 'hunch and impression'. The third figure was 'seeing apparition or psychic phenomena related to the dead or dying person,' having 14 cases, 13.6 %.

An Experimental ESP Study in the N-N Associative Process: To demonstrate the psi effect in human associative process, I first selected 100 stimulus noun words. In four psychology classes, 289 students in all, I read each of them while the students wrote down a noun word associated with it in their minds in their record sheets. Thus, I completed tables of response words to each stimulus word. From each table I extracted four response words low and almost even in the association value to each other. My experimental plan for psi is to use these words in an ESP-association test situation.

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#### An ESP Experiment In A Mountain-Top

Shigeki Hagio

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JAPAN

#### ABSTRACT

Two different sets of ESP experiment in a mountain-top situation were accomplished by the associate student members of KPC(Kagoshima-Keizai University Parapsychology Club) and Hagio. The subjects used a deck of Zener cards and Perceptron, a portable-type machine sold for testing ESP. Each of two experiments was accompanied by a laboratory-room ESP testing as a control. In Experiment 1, in the Zener Card series five subjects completed 20 runs yielding the deviation +16 in the Mountain-top condition on the one hand, and -7 in the Control condition on the other hand, the difference being marginal for statistical significance. ( $CR=1.79$ ,  $P=.08$ ) In Experiment 2, in the Perceptron series nine subjects completed 36 runs giving a score with 36 of extra chance, significant at .01 level, its difference from the Control series being significant ( $P=.05$ ). Our results were supportive to the hypothesis that mountain-tops often provided with a proper condition for the manifestation of psi.

My Researches on Psi:

Stability of ESP Scores; A Behavior ESP Target; Survey-Interview  
Approach to Spontaneous Psi; Psi in the Associative Process

KAGOSHIMA-KEIZAI UNIVERSITY

SHIGEKI HAGIO

Stability of ESP Scores: 77 students among others completed four series of card ESP test conducted week by week in a college psychology class, 1979. Each series test consisted of 4 runs. Their overall scores were positive in a significant level ( $P=.05$ ). Out of six correlative coefficients among the four series one was positively significant ( $P=.05$ ) and another was negatively so ( $P=.05$ ), while the other four coefficients had positive yet small values. The data also was considered from another point of view--"stability of the score in each subject". The number of those who had a score above MCE(20) in every series were 6, that is much more than the theoretical value 3.1, but insignificant ( $CR=1.0$ ).

*corrected for stacking*  
*positive*  
*stable*  
*in fact*  
*another*  
*correlation*

An Experiment with Behavior ESP Targets: In an attempt to use human behaviors as an ESP target instead of the card figures, I selected four human actions: standing, writing, lying and walking. An experimental assistant played one randomly-selected behavior for 60 seconds for each trial in one room that the subject guessed in another room. Each of the four experimental subjects completed 120 trials and he also had the Zener-card series, 150 trials. One subject obtained a significant positive score ( $P=.05$ ) in the behavior series though the overall results of the behavior series was not different from that of the card series statistically.

*human*  
*specific*

A Survey-Interview Approach to Spontaneous Psi Experiences: Out of 763 students of the 1988 and 1989 college psychology classes who answered questionnaire items on their spontaneous psi experiences, 83 students were interviewed to talk about their experiences in detail. they told 103 stories of their own experiences in all. 'Correspondence between a dream and real

## ALL-OR-NONE MODELS AND SIGNAL DETECTIVITY THEORY

KOKUBO, Hideyuki

August 27, 1992

I published the intensity probability theory as the basic research for the study of the statistic experiment at 19th annual convention of the Japanese Society for Parapsychology, 1986. Some interesting studies have been done since the theory was presented.

In the theory, I made a new all-or-none model, often called Kokubo's model, which was a 2-parameter model. I made it for the explanation of observable four events following that:

hit by psi, miss by psi,  
hit by chance, miss by chance.

My model's parameters are  $i$  and  $m$ . Parameter- $i$  is a probability that psi is activated in a trial. Parameter- $m$  is a probability of miss on condition that psi is activated. We can assume a subject guesses at random if his psi is not activated.

2-parameter-model is very useful for analyzing statistic data. But I expanded my research field before long, because I could find that we could explain those four events by use of another theory, SDT(the Signal Detectivity Theory).

Some important results so far

### (1) A ROLE OF ALL-OR-NONE MODELS

Old all-or-none models, 1-parameter models, can show us better conditions for the detection of psi in statistic experiments.

### (2) ESTIMATION OF ESP DATA

In ESP tests, values of  $i$ , which means subject's psi talent, nearly equal 0.01 on the condition that the prior probability is from  $1/2$  to  $1/52$ . (This result is rediscovered.)

(3) ESTIMATION OF PK DATA

Haga, H. (1989) confirmed the central limit theorem for the value of  $i$  in a PK test with dice, and confirmed two important assumptions presented by Kokubo (1987). Then Haga found that  $i$  nearly equaled 0.01 as same as in ESP tests. From above results, Haga has thought that it is possible to realize the digital PK communication. I agree with him.

(4) ADVANCED METHOD

We can evaluate values of  $i$  and  $m$  with the Plural Mode Method considered by Kokubo (1987, 1988). And maybe we be able to estimate the Observational Theories. Generally, we can obtain more information from experiments by using 2-parameter models than 1-parameter models.

(5) ROC CURVE OF ESP DATA

On the SDT, Sakurai, H. (1987) re-analyzed Pearce-Pratt's experiment and evaluated a value of  $d'$  as 0.45. And he succeeded to draw a ROC curve of it (1988). But, his obtained result also can be fit the ROC curve introduced from All-or-none models in parapsychology. I can not select one, because the value of  $d'$  is very small.

(6) PARADOX OF CONFIDENTIAL CALL

In a theoretical study for the SDT, Kokubo (1989) shew the relation between the confidential call and the scoring ratio or the CR in the Yes-No test. The obtained results suggested that we could not expect good experimental results if we analyzed only very-high-confidential calls. And they suggested that we had better plan to let subjects feel easy to say "high confidence" frequently.

(7) A STRANGE ASSUMPTION

In another theoretical study, Kokubo (1989) succeeded to find a equation to explain that the value of  $i$  was constant with the SDT. But, a very strange assumption was essential for introducing the equation. In the assumption, the mental scale has a unit like a quantum of mental energy.

## PARAPSYCHOLOGY IN JAPAN

By James McClenon

The Japanese Society for Parapsychology will celebrate its 25th anniversary in 1990. The society meets monthly at Tokyo University and sponsors an annual convention each December. Although monthly meetings attract less than a dozen members, this group might be considered a branch of the Parapsychological Association, since its goals and orientations are equivalent.

Members conduct original research and critically evaluate each other's efforts. Koten Nagashima has conducted psi experiments for 10 years, using patients from his geriatric psychiatry practice as participants. He measures pulse rates and brain functions within the context of the card guessing and dice predicting experiments. Although his annual results tend to be ambiguous regarding proof of psychic effects, the society hopes an analysis of the entire 10-year series will generate clearer conclusions. In 1987, Yoshiichi Ro presented a paper, "Processes of Deformation in Spoon-Bending Phenomena." Hiroyuki Sakurai described a method for applying signal detection theory to psi research. Hideyuki Kokubo described "A New Psi Test." Hiroyuki Sakurai presented a paper "Application of Signal Detection Theory to Psi Research." Soji Otani spoke "On the Effect of External Stimulus to ESP Score." Koten Nagashima presented a paper "On EEG and PK" and Tokiki Wada presented "Comparison of Psi Experience Surveys Between Japan and England." Japanese theorists are particularly interested in observational theories. For example, Hideyuki Kokubo delivered a paper at the 1988 convention entitled "On an Experimental Method to Evaluate Observational Theories." During that same year Masayuki Hirafuji presented a paper "ESP Model by Neural Net," and Koten Nagashima presented "On the Psi Ability of the Psychopath."

Professor Soji Otani, of the National Defense Academy, is a guiding influence on the society. In 1987, he presented the convention Presidential Ad-

dress entitled "The Problem of Chi in Parapsychology." Otani has observed various Chinese *chi gong* masters who visited Japan. *Chi* (*ki* in Japanese) is thought to be the universal life energy that permeates the universe. *Chi-gong* masters (*ki-ko* in Japanese) claim to be adept at controlling this energy. *Ki* may have a slightly different meaning in Japanese than *chi* in Chinese. This variation is derived from both cultural and translation differences. In Japanese, *ki* has diverse meanings: *denki* means electricity (*den* means thunder) and *tenki* means weather (*ten* means heaven). Sometimes *ki*, by itself, means "energy." Scientifically, it is difficult to define exactly what *ki* is. In Chinese, *chi* is sometimes translated into English as "gas" even though it is thought to be a form of energy. Although *chi-gong* masters are part of the medical establishment in some Chinese hospitals, only a few such practitioners cure their clients using this methodology in Japan.

Professor Otani has conducted various forms of psychical research which have not been published. A number of years ago, he conducted a survey of Japanese war widow's experiences. He polled 100 widows in each prefecture of Japan, finding that many reported apparitional experiences coinciding with their husbands' deaths during World War II. About one-third of the 2,200 questionnaires were returned. Although his analysis is still incomplete, Otani is categorizing the types, clothing, actions and patterns in the impressions, as well as times of impression versus time of incident. Although no case reveals perfect correspondence between actual events and the widow's impressions, some cases reveal a high degree of coincidence. In a few cases, the husband, thought to be dead, returned safely. Otani has noted a wide diversity in the manner that the widows interpret their experiences. Some regard the apparitional event as extremely abnormal while others classify their experience as ordinary.

About 15 years ago, Otani conducted an ESP card test with participants in a submarine, producing experimental results which have not been published. Three conditions were compared: a submerged sub, a surfaced sub and a land-based situation. He found little difference between the floating sub and land target, but the submerged target generated significantly lower ESP scores. Otani notes that there may be other variables, such as distance and time, which might have produced this differential effect. He draws no conclusions from this data.

Tosio Kasahara has been active translating parapsychological works from English into Japanese and getting edited volumes published. He recently completed the translation of Haraldsson's (1987) *Modern Miracles* and Stevenson's (1987) *Children Who Remember Previous Lives*. His edited volume *Sui No Senjo: Choshinriaku Zenshi* (*The Battlefield of Psi: History of All the Debates in Parapsychology*), was published by Heibonsha Limited in 1987. Kasahara is presently editing and translating a collection of articles for a book entitled *Tsuranikusa* (*The Elusiveness Problem*) to be printed by Shunju sha Publishers.

A few years ago, Dr. Kasahara visited Seoul, Korea, to investigate a Christian psychic surgeon, Mrs. Kim. Mrs. Kim seemed to aid patients by ripping out their cancerous growths with her bare hands. Kasahara returned from Korea with a videotape supplied by Mrs. Kim's organization (my Korean translator referred to it as the "Seeing-Hearing-Feeling Church"), as well as tapes produced by himself during his own visit. From the videotape supplied by her organization, it appears that Mrs. Kim makes incisions into some of her patient's bodies, in a manner that would seemingly (normally) cause harm. Cancerous growths are sometimes literally (apparently) torn

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out of patients' bodies. Although the medical value of her interventions could not be established by Kasahara's investigation, her organization claims that her treatments are highly effective. The organization's videotape shows cases in which patients' progress toward complete recovery is documented over time. Kasahara's private videotape does not show Mrs. Kim making incisions, which suggests that she does not regularly engage in this practice. She appeared to be symbolically treating patients by applying small bandages. I talked about this case with a Korean colleague at my university, Dr. Woo Jung Ju. Apparently, Mrs. Kim has gained a degree of fame throughout Korean and even a Korean church group in Dr. Ju's neighborhood, in Norfolk, Virginia, has seen her videotape. Although Dr. Ju noted that a small percentage of religious Koreans believe in her ability, he feels that most Koreans are highly skeptical. Dr. Ju knows of no formal scientific investigation of her organization's claims.

The society keeps abreast of research developments in other countries. Takaki Ota, a high school English instructor, regularly paraphrases Western reports for the monthly meetings of the society. He is presently reading *Margins of Reality* by Jahn and Dunne (1987) and will be reviewing this book at a meeting this summer. Shigeki Hagio presented a paper, "Recent Researches of Parapsychology in USA" at the 1988 annual convention in Yotsuya, Tokyo.

Various other individuals, besides the members of the Japanese Society for Parapsychology, have conducted psychical research in Japan. Professor Aoki has done a remote viewing experiment at Chubu University. Hironori Motoyama, founder of the Institute for Religious Psychology, has conducted a longterm research program, seeking to ferret out the relationship between yoga, meridians and *chi* energy. He uses complex equipment to monitor electrical body functions and believes his data, analyzed by computer, reflect personality characteristics, as well as potential medical disorders. Motoyama, a Shinto priest, advocates a religious orientation, a position which af-

fects his theoretical formulations and arouses suspicion among scientifically oriented observers. Various new religious groups, which have sprung up since World War II, also present many claims regarding paranormal feats. Some organizations advocate secular ideologies, somewhat scientific in orientation, rather than religious doctrines.

The Japanese media play a significant role in shaping the public's impressions of the occult. A famous Japanese actor, Tetsuro Tanba, had a near-death experience; afterward, he took part in producing a movie about the "after-death" world. His fame and popularity have increased even more since he devoted time toward disseminating life-after-death information.

Masuaki Kiyota, the Japanese metal bender, has starred in a fictional movie, written a book and appeared on various television programs. Although, in 1986, he seemed to acknowledge on TV that he used trickery, a degree of controversy surrounds this incident and he denies "confessing" in the manner portrayed. He claims his "disclosure" was produced through creative editing.

During the early 1980s, Professor Otani conducted a series of experiments with Masuaki Kiyota, attempting to document his psychokinetic ability on videotape. Otani videotaped various events which suggest that some of Kiyota's performances are authentic. One tape shows Kiyota directing his efforts toward a specially-tagged spoon which has been clamped into position. On various occasions, the spoon's head slowly, but markedly, twists, without being touched. Otani was present during these experiments and carefully inspected the spoons both before and after videotaping. Since the spoons' tags are clearly discernible in these segments, it would seem that the test spoons could not have been tampered with or switched. Otani hopes to produce a "perfect" segment of videotape, one in which he demonstrates his precautions and procedures, both before and after the filming of the subject's efforts.

Japan is presently experiencing a

form of occult boom. Fortune telling, astrology and tarot cards are also attracting interest, especially among young girls. Some people are also studying and advocating Chinese numerology and fortune telling techniques, using the year, month, day and time of one's birth. Divinations based on the writing of the characters in one's name make these calculations even more complex. A small, but growing, segment of young people has become interested in stories about fairies (taken from the European archetype, rather than Japanese folklore).

Various popular magazines support belief in the paranormal. One publication, *Mu*, whose name is derived from the Pacific version of the lost continent of Atlantis, has a monthly circulation of about 300,000. *Twilight Zone* and *AZ* also attract the attention of those interested in the paranormal. Television programs, although not scientifically oriented, have presented information regarding hauntings in Japan.

Increasing concern with the occult has stimulated critical activists to become more visible. Although this movement may be an indication that Japanese skeptics are beginning to take the possibility of ESP's existence more seriously, I know of no evidence suggesting that the Japanese scientific community harbors greater tolerance to parascientific claims than do Western scientists. It may be that they are more willing to investigate physiological phenomena associated with altered mental states, since some investigators have conducted experiments with individuals claiming special abilities.

One television program, part of the series "Science-Q," a weekly educational documentary, presented a program that attracted great interest among Japanese parapsychologists. The program showed various feats performed by a *liho* master from China, Dr. Yu Yong Chang. Under the supervision of academic researchers, the master caused paralyzed children to move their limbs. He also affected a candle's flame under uncontrolled conditions (the investigators felt that their controls were satisfactory during this feat).

but I believe most Western parapsychologists would disagree with them). Japanese investigators claimed that the blood volume and heat in the master's hands increased when he attempted to radiate energy. A professor from Tohoku University used a special device to measure extremely low levels of photon emissions (light); he determined that the *kiko* master could radiate such energy in an unusual, and perhaps anomalous, manner. Although experiments seeking to detect special emissions of static electricity, supersonic sounds and long frequency waves were not successful, the master was able to affect the emission of infrared light. An EEG analysis of the master's brain indicated a pattern similar to that of an epileptic patient, as well as changes in alpha patterns, even though no unusual behavior was apparent. After the demonstrations, discussants argued regarding the meaning of these findings. One speculated that very minor energy emissions of the master triggered bodily responses in the patient, using the patient's own energy. Another felt this theory was inadequate, since he believed the master could affect inanimate objects.

Dr. Toshi Kasahara, a member of the Parapsychological Association, had the opportunity to monitor the effects of Dr. Yu's treatments on one of his patients. The woman, who was unable to get up in the morning due to a hereditary, severe kidney problem, was clearly benefited by the *kiko* master's therapy. After treatment, she arose at a normal hour and became far more active in life.

Dr. Yu allegedly has demonstrated the ability to affect his patients' autonomic nervous systems, even when shielded from them. He is quite willing to participate in controlled experiments investigating the possibility that he can do this at a distance. Western researchers who are interested in this project should contact me so that I can put them in touch with Japanese investigators. One researcher, Dr. Shigenori K. Sasaki, suggests the following conditions: (1) subject(s) in the USA should be young, regardless of sex, having a high sensitivity and having had much experience with autogenic training; (2) the laboratory should be shielded from electromagnetism; (3) various elements within the autonomic nervous system should be competently measured. Dr. Yu would concentrate on photographs of the laboratory and subject(s) in an attempt to cause psychological effects.

A television program which aired in early 1969 may also affect public perceptions of the paranormal. A professional magician, Marik, gave demonstrations of what he referred to as "psychokinesis" and "telekinesis." He bent spoons, transformed keys, made coins seem to pass through glass and performed mentalist feats. Although he stated that he was "not a psychic," he did not explain the means by which he accomplished his feats and many observers interpreted his performance as a demonstration of paranormal ability. Those familiar with sleight-of-hand magic would have no difficulties in perceiving normal means by which Marik could perform his feats. He portrays

himself as a performer, rather than an individual who requests scientific investigation, and seems cautious in making outright declarations regarding "magical" powers.

The members of the Japanese Society for Parapsychology recognize the problems that media presentations create for scientifically oriented researchers, but remain interested in the possibility that humans radiate special energies associated with psi. The practices of acupuncture, shiatsu and other therapies based on Asian ideologies are prevalent in Japan. They feel that Chinese *kiko*, a practice associated with seemingly psychokinetic performances, may constitute a fruitful realm for the scientific investigation of psychic healing. Although Chinese researchers investigating *kiko* masters tend to accept loose proofs of "anomalous" feats, Japanese scientists demand far higher levels of evidence. The main interest of Japanese investigators is not whether *kiko* masters have special abilities, but the exact nature of the energies producing observed effects. Although such abilities may not be related to psi, the investigation of them will contribute to the understanding of human physiology.

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